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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,344	09/28/2004	Masafumi Matsunaga	NOR-1218	5384

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EXAMINER

TADESSE, YEWEBDAR T

ART UNIT PAPER NUMBER

1734

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/509,344

Applicant(s)

MATSUNAGA ET AL.

Examiner

Yewebdar T. Tadesse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05052005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group II in the reply filed on 12/19/2005 is acknowledged.

In this reply, applicants have cancelled claims 1-16 and added new claims 18-26.

Claims 17-26 have been examined as follow:

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claims 17-23 and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii (US 5,435,462).

With respect to claim 17, Fujii discloses (see Figure, column 3, lines 44-62) a liquid dispensing apparatus comprising: two or more vessels (cartridges 28, 28a) to be filled with liquid; a flow passage (42) communicating the two or more vessels with each other; a valve (dispenser 14) for dispensing the liquid from the flow passage; a pressurizing device (pressurized air supplied through tube 46,46a) to apply a predetermined pressure to at least one vessel of the two or more vessels and for setting a pressure of at least one remaining vessel at a lower level than the predetermined pressure of the at least one vessel; and a flow rate restricting member (valve 44, 44a) to regulate a flow rate of the liquid flowing in the flow passage when the pressurizing device applies the predetermined pressure to the at least one vessel of the two or more vessels (28, 28a) and sets the pressure of the at least one remaining vessel at the lower level than the predetermined pressure of the at least one vessel.

As to claim 18 Fujii discloses a flow rate-restricting member (valve 44, 44a) positioned inside of the flow passage.

As to claim 19, Fujii discloses (see Figure) a flow rate-restricting member (44, 44a) positioned in the flow passage between each of the two or more vessels and the valve.

As to claim 20, Fujii discloses (see Figure) wherein the pressurizing device (pressurized air supplied through tube 46,46a) intermittently applies a pressure to each vessel.

As to claim 21, Fujii discloses (see Figure and column 3, lines 28-43) wherein the pressurizing device uses compressed gas to apply different pressures.

As to claim 22, Fujii discloses (see Figure) wherein the compressed gas is applied using a plunger (a movable top end 58) provided between the compressed gas and the liquid.

As to claim 23, Fujii discloses (see Figure) a valve (dispenser 14) that includes a spray nozzle (24).

As to claim 25, Fujii's valve with an orifice (44, passing liquid through see column 3, line 40) corresponds to the on/off valve having an orifice as described in applicant's Fig. 3.

As to claim 26, Fujii discloses (see Figure) vessels (cartridges) function as syringes when discharging material.

4. Claims 17-23 and 26 rejected under 35 U.S.C. 102(e) as being anticipated by Yanagita et al (US 6, 540,104).

As to claim 17, Yanagita et al discloses (see Fig 4) a liquid dispensing apparatus comprising: two or more vessels (cylinders 34A, 34B) to be filled with liquid; a flow passage (see Fig 4) communicating said two or more vessels with each other; a valve (distal end 28 with a dispensing outlet 26) for dispensing the liquid from the flow passage; a pressurizing device (air pressure supplied to metering cylinders 36A, 36B and plungers 38A, 38B) to apply a predetermined pressure to at least one vessel of the two or more vessels (34A, 34B) and for setting a pressure of at least one remaining

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vessel at a lower level than the predetermined pressure of the at least one vessel; and a flow rate restricting member (62A, 62B) to regulate a flow rate of the liquid flowing in the flow passage when the pressurizing device applies the predetermined pressure to the at least one vessel of the two or more vessels and sets the pressure of the at least one remaining vessel at the lower level than the predetermined pressure of the at least one vessel.

As to claim 18 Yanagita et al discloses (see Fig 4) a flow rate-restricting member (62A, 62B) positioned inside of the flow passage.

As to claim 19, Yanagita et al discloses (see Fig 4) a flow rate-restricting member positioned in the flow passage between each of the two or more vessels and the valve.

As to claim 20, Yanagita et al discloses (see Fig 4 and Abstract) a pressurizing device (air pressure supplied to metering cylinders 36A, 36B and plungers 38A, 38B) intermittently applies a pressure to each vessel.

As to claim 21, Yanagita et al discloses (see Fig 4 and columns 2-3, lines 67-68 and 1-4 respectively) a pressurizing device that uses compressed gas to apply different pressures.

As to claim 22, Yanagita et al discloses (see Fig 4 and columns 2-3, lines 67-68 and 1-4 respectively) a compressed gas (pressurized air) applied using a plunger (38) provided between the compressed gas and the liquid.

As to claim 23, Yanagita et al discloses the valve includes a spray nozzle (a spray gun, see column 2, line 49).

As to claim 25, Yanagita et al's valve with an orifice (62A and 62B opened and

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closed, see column 5, lines 12 and 30) corresponds to the on/off valve having an orifice as described in applicant's Fig. 3.

As to claim 26, Yanagita et al discloses (see Fig 4) vessels (cylinders) that are syringes (material charged and discharged through the outlets of the cylinder, see column 3, lines 35-37).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii (US 5,435,462) in view of Gabryszewski et al (US 4,911,956). Fujii lacks teaching a spray

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nozzle atomizing the liquid using a gas. However, a spray nozzle using a gas to atomize the liquid material is well known in the art; for instance - Gabryszewski et al discloses (see Fig 2) a spray nozzle using a gas to atomize the liquid material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a spray nozzle using a gas to atomize the liquid in Fujii to prevent the formation of strings or strand-like fibers as taught by Gabryszewski et al (see column 2, lines 54-63).

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagita et al (US 6,540,104) in view of Gabryszewski et al (US 4,911,956). Yanagita et al lacks teaching a spray nozzle atomizing the liquid using a gas. However, a spray nozzle using a gas to atomize the liquid material is well known in the art; for instance - Gabryszewski et al discloses (see Fig 2) a spray nozzle using a gas to atomize the liquid material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a spray nozzle using a gas to atomize the liquid in Yanagita et al to prevent the formation of strings or strand-like fibers as taught by Gabryszewski et al (see column 2, lines 54-63).

Conclusion

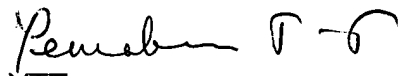
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Contastin (US 3,892,389) discloses (see Fig 2) an on/off valve (33) having an orifice (33b), which is closed and opened by a needle.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


YTT